TRIAL EXHIBIT 6458

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UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN FRANCISCO DIVISION

ORACLE AMERICA, INC.,

Plaintiff,

v.

GOOGLE INC.,

Defendant.

Case No. CV 10-03561 WHA

ORACLE'S SUPPLEMENTAL RULE 26(a)(2)(C) DISCLOSURE

Dept. Courtroom 8, 19th Fl.
Judge: Hon. William Alsup

Pursuant to Federal Rule of Civil Procedure 26(a)(2)(C), Plaintiff Oracle America, Inc. ("Oracle") hereby discloses the subject matter on which certain of Oracle's employees and former employees may present testimony that may be deemed to fall under Federal Rules of Evidence 702, 703, or 705, and a summary of the facts and opinions as to which the witnesses may testify.

By providing these disclosures, Oracle does not concede that any of the subject matter disclosed below necessarily falls under Federal Rules of Evidence 702, 703, or 705, and does not commit that these witnesses will in fact testify at the trial in this matter on these or other topics within their personal knowledge. Oracle makes these disclosures out of an abundance of caution in light of the Court's approach to Rule 26(a)(2)(C) disclosures in the previous trial in this matter (*see* Transcript at 389-391) and in addition to its prior disclosures pursuant to Federal Rule of Civil Procedure Rule 26(a) and the testimony of record in this matter.

1. **Edward Screven**: Mr. Screven is a current Oracle employee who, as Oracle's Chief Corporate Architect, may present testimony on the composition, structure, and function of components of the Java platform, including the Java language, the Java APIs, and the Java virtual machine. Mr. Screven may testify that the Java language can be used without some or all of the 37 Java API packages and may provide an opinion that some or all of the 37 Java API packages are not part of and not necessary for the Java language. Mr. Screven may also present testimony regarding API design, including that API design is a creative exercise and that well-designed APIs are desirable. He may testify that the 37 Java API packages at issue are creative and well-designed. He may testify as to the virtues of Java, the reasons for its success and developer demand for and familiarity with Java APIs. He may testify that Java's "write once, run anywhere" principle is critical to its value. Mr. Screven may also present testimony regarding compatibility across Java editions and Android's incompatibility with Java. Mr. Screven may also present testimony regarding the Sun Microsystems, Inc. ("Sun") acquisition and the value of Java at the time of the Sun acquisition and the importance of Java to Oracle's business. Mr. Screven may also present testimony regarding fragmentation and forking, what constitutes fragmentation and forking, Android's fragmentation and forking of Java, and that

Android's fragmentation and forking of Java have harmed Java. He may also testify regarding Oracle's plans to expand in the mobile phone market. He may testify that the rise of Android negatively impacted the mobile phone market for Oracle. Mr. Screven may also testify regarding Oracle's investment in Java and Java's importance. Mr. Screven may also present testimony regarding Java licensing and, if necessary for rebuttal, Mr. Screven may testify regarding Oracle's strategy for enforcement of its rights with respect to GNU Classpath and regarding Apache Harmony and the reasons why Sun and later Oracle expected that the industry would not widely adopt open source Java for commercial implementations given the requirements associated with using the necessary license.

2. **Mark Reinhold**: Dr. Reinhold is a current Oracle employee who, as Chief Architect of the Java Platform Group at Oracle (and before that at Sun), may present testimony on the history of the Java platform, including Java SE and ME and the relationship between ME and SE, and on the composition, structure, and function of components of the Java platform, including the Java language, the Java APIs, and the Java virtual machine. Dr. Reinhold may testify about the technical capabilities of the Java platform, including the types of devices on which the Java platform, including Java SE and ME, can run. Dr. Reinhold may also present testimony on Java API structure, design, and functional aspects, including the relationship between implementing code and declaring code in the Java platform. He may testify that designing APIs is a creative process, about the choices made during that process, and about what an API is generally and how it works. Dr. Reinhold may also offer testimony regarding the packages, classes, methods and interfaces and their roles within an API and the Java APIs specifically. Dr. Reinhold may testify regarding the structure, sequence, and organization (the "SSO") of the Java API packages and the significance and importance of the SSO. And he may testify specifically regarding the SSO and declaring code copied by Google and that what was copied was an important part of Java. He may testify that the code Google took does the same thing in Android as it does in Java. Dr. Reinhold may also present testimony regarding compatibility across Java editions, the meaning and importance of Java's "write once, run anywhere" principle, and Android's incompatibility with Java. Dr. Reinhold may also testify

that the Java language can be used without some or all of the 37 Java API packages and may provide an opinion that some or all of the 37 Java API packages are not part of and not necessary for the Java language. Specifically, Dr. Reinhold may testify that of the 61 classes listed in TX 1062, only the declaring code and related SSO listed in the table attached as **Exhibit A** is subject to a technical constraint imposed by the Java Language Specification (3rd Ed.) ("JLS") and that copied declaring code and SSO not listed in the table are not subject to a technical constraint imposed by the JLS. Dr. Reinhold may also present testimony regarding the advantages of Java as compared to other programming environments or platforms and may address stability of the Java platform, the length of time needed to establish stability in a software platform such as Java, and the reasons why Java was so popular and attractive to developers. Dr. Reinhold may also present testimony regarding the value and quality of the 37 Java API packages and Oracle's investment in Java and its importance. Dr. Reinhold may testify about TCK testing, what it is, what is required to satisfy the TCK test and whether Android has done or could do so. Dr. Reinhold may testify that Android cannot and has not passed the TCK. Dr. Reinhold may also testify about the Java Specification Request ("JSR") process and the Java Community Process ("JCP") for development of Java-related specifications. Dr. Reinhold may also testify about the copyright notices contained in the source code for the Java platform and the source code related to Java copyright applications and registrations.

3. **Thomas Kurian**: Mr. Kurian is a current Oracle employee who, as President of Product Development, may present testimony regarding Java history and Oracle's use of Java, including Oracle's licensing of Java from Sun before the acquisition. Mr. Kurian may testify about the value of Java, that Java APIs are creative and that they attract developers. Mr. Kurian may testify about compatibility across Java editions and Android's incompatibility with Java, including what would be required, from a technical standpoint, to make Android compatible with Java. Mr. Kurian may testify about TCK testing, what it is, what is required to satisfy the TCK test, and whether Android has done or could do so. Mr. Kurian may also present testimony regarding fragmentation and forking of Java, including testimony that Android's fragmentation and forking of Java has harmed Java. Mr. Kurian may also present testimony regarding Java

licensing. Mr. Kurian may also testify about the uses of Java by third parties in various products, including for example, BluRay DVD players, TVs, appliances and other electronics, as well as how Android has harmed Java in those markets and others. Mr. Kurian may also testify regarding Oracle's investment in Java and its importance. If necessary for rebuttal, Mr. Kurian may also present testimony on why open source Java was not a viable option for Google at the time it developed Android and Oracle's strategy for enforcement of its rights with respect to GNU Classpath. If necessary for rebuttal, Mr. Kurian may also present testimony regarding the licensing dispute over Apache Harmony and the reasons why Sun and later Oracle expected that the industry would not widely adopt open source Java for commercial implementations given the contractual requirements associated with using the necessary license.

4. **Henrik Stahl**: Mr. Stahl is a current Oracle employee who, as Vice President of Product Management, may present testimony regarding the market for Java before the introduction of Android and the current markets for Java-based products, including the market for mobile phones and other markets, such as markets for Internet of Things, TVs, wearables, and cars, as examples. Mr. Stahl may also testify about competition in the marketplace for Java. Mr. Stahl may also present testimony regarding the impact of Android on actual or potential markets for Java and the harm caused to the market for Java by Android.

Mr. Stahl may also testify that:

- Sun and Oracle were successful with Java in the feature phone market.
- Sun and Oracle licensed Java to several customers in both the feature phone and smart phone markets, such as Samsung, LG, Nokia, Blackberry/RIM, and Danger. *See, e.g.*, Ringhofer Dep. Ex. 1344, attached hereto as **Exhibit B**; Oracle's First Supplemental Responses and Objections to Google's Seventh Set of Interrogatories, dated December 16, 2015, attached hereto as **Exhibit C**; Exhibit 22 to the Expert Report of Adam Jaffe, Ph.D., dated February 8, 2016, attached hereto as **Exhibit D**.
- Competition with Android has harmed and continues to harm Java in the mobile phone market, including by causing the loss of Java customers who decided to move to Android, and that due to Android, Java was pushed out of the mobile phone

market. *See, e.g.*, Ringhofer Dep. Ex. 1344, attached hereto as **Exhibit B**; Oracle's First Supplemental Responses and Objections to Google's Seventh Set of Interrogatories, dated December 16, 2015, attached hereto as **Exhibit C**; Exhibit 22 to the Expert Report of Adam Jaffe, Ph.D., dated February 8, 2016, attached hereto as **Exhibit D**.

- Competition with Android has also harmed and continues to harm other actual and potential markets for Java, including tablets/e-readers (such as the Amazon Kindle), the Internet of Things, TVs, wearables, and cars. *See, e.g.*, Ringhofer Dep. Ex. 1344, attached hereto as **Exhibit B**; Oracle's First Supplemental Responses and Objections to Google's Seventh Set of Interrogatories, dated December 16, 2015, attached hereto as **Exhibit C**; Exhibit 22 to the Expert Report of Adam Jaffe, Ph.D., dated February 8, 2016, attached hereto as **Exhibit D**.
- The processing power of mobile phones and other small devices increased rapidly with the evolution of the hardware for those devices. This created more opportunities for licensing Java ME and SE in a wide variety of devices. Android substantially impacted that market.
- The rise of Android has further harmed Java and the market for Java because Android is incompatible with Java and creates fragmentation and division within the community of Java developers that did not exist prior to Android.
- The rise of Android has undermined Java's "write once, run anywhere" principle.

5. **Donald Smith**: Mr. Smith is a current Oracle employee who, as Senior Director of Product Management, may present testimony regarding Java product management, Java licensing, the markets for Java-based products, including the market for mobile phones and other markets, such as markets for the Internet of Things, TVs, wearables, and cars, as examples, and competition in the marketplace for Java. Mr. Smith may also present testimony regarding the impact of Android on actual or potential markets for Java and the harm caused to the market for Java by Android. Mr. Smith may testify that:

- Sun and Oracle were successful with Java in the feature phone market.

- Sun and Oracle licensed Java to several customers in both the feature phone and smart phone markets, such as Samsung, LG, Nokia, Blackberry/RIM, and Danger. *See, e.g.*, Ringhofer Dep. Ex. 1344, attached hereto as **Exhibit B**; Oracle's First Supplemental Responses and Objections to Google's Seventh Set of Interrogatories, dated December 16, 2015, attached hereto as **Exhibit C**; Exhibit 22 to the Expert Report of Adam Jaffe, Ph.D., dated February 8, 2016, attached hereto as **Exhibit D**.
- Competition with Android has harmed and continues to harm Java in the mobile phone market, including by causing the loss of Java customers who decided to move to Android, and that due to Android, Java was pushed out of the mobile phone market. *See, e.g.*, Ringhofer Dep. Ex. 1344, attached hereto as **Exhibit B**; Oracle's First Supplemental Responses and Objections to Google's Seventh Set of Interrogatories, dated December 16, 2015, attached hereto as **Exhibit C**; Exhibit 22 to the Expert Report of Adam Jaffe, Ph.D., dated February 8, 2016, attached hereto as **Exhibit D**.
- Competition with Android has also harmed and continues to harm other actual and potential markets for Java, including tablets/e-readers (such as the Amazon Kindle), the Internet of Things, TVs, wearables, and cars. *See, e.g.*, Ringhofer Dep. Ex. 1344, attached hereto as **Exhibit B**; Oracle's First Supplemental Responses and Objections to Google's Seventh Set of Interrogatories, dated December 16, 2015, attached hereto as **Exhibit C**; Exhibit 22 to the Expert Report of Adam Jaffe, Ph.D., dated February 8, 2016, attached hereto as **Exhibit D**.
- The processing power of mobile phones and other small devices increased rapidly with the evolution of the hardware for those devices. This created more opportunities for licensing Java ME and SE in a wide variety of devices. Android substantially impacted that market.
- The rise of Android has further harmed Java and the market for Java because Android is incompatible with Java and creates fragmentation and division within the community of Java developers that did not exist prior to Android.

- Java customers have used the threat of moving to Android as leverage during negotiations with Oracle.

6. **Mike Ringhofer**: Mr. Ringhofer is a current Oracle employee who, as Vice President of the Worldwide Java Business with a team of over 100 people, may present testimony regarding Java sales, Java licensing and licensing enforcement, the markets for Java-based products, including the market for mobile phones and other markets, such as markets for the Internet of Things, TVs, wearables, and cars, as examples, and competition in the marketplace for Java. Mr. Ringhofer may also present testimony regarding the impact of Android on actual or potential markets for Java and the harm caused to the market for Java by Android. Mr. Ringhofer may testify that:

- Sun and Oracle were successful with Java in the feature phone market.
- Sun and Oracle licensed Java to several customers in both the feature phone and smart phone markets, such as Samsung, LG, Nokia, Blackberry/RIM, and Danger. *See, e.g.*, Ringhofer Dep. Ex. 1344, attached hereto as **Exhibit B**; Oracle's First Supplemental Responses and Objections to Google's Seventh Set of Interrogatories, dated December 16, 2015, attached hereto as **Exhibit C**; Exhibit 22 to the Expert Report of Adam Jaffe, Ph.D., dated February 8, 2016, attached hereto as **Exhibit D**.
- Competition with Android has harmed and continues to harm Java in the mobile phone market, including by causing the loss of Java customers who decided to move to Android, and that due to Android, Java was pushed out of the mobile phone market. *See, e.g.*, Ringhofer Dep. Ex. 1344, attached hereto as **Exhibit B**; Oracle's First Supplemental Responses and Objections to Google's Seventh Set of Interrogatories, dated December 16, 2015, attached hereto as **Exhibit C**; Exhibit 22 to the Expert Report of Adam Jaffe, Ph.D., dated February 8, 2016, attached hereto as **Exhibit D**.
- Competition with Android has also harmed and continues to harm other actual and potential markets for Java, including tablets/e-readers (such as the Amazon Kindle), the Internet of Things, TVs, wearables, and cars. *See, e.g.*, Ringhofer Dep. Ex. 1344,

attached hereto as **Exhibit B**; Oracle's First Supplemental Responses and Objections to Google's Seventh Set of Interrogatories, dated December 16, 2015, attached hereto as **Exhibit C**; Exhibit 22 to the Expert Report of Adam Jaffe, Ph.D., dated February 8, 2016, attached hereto as **Exhibit D**.

- The processing power of mobile phones and other small devices increased rapidly with the evolution of the hardware for those devices. This created more opportunities for licensing Java ME and SE in a wide variety of devices. Android substantially impacted that market.
- The rise of Android has further harmed Java and the market for Java because Android is incompatible with Java and creates fragmentation and division within the community of Java developers that did not exist prior to Android.
- Java customers have used the threat of moving to Android as leverage during negotiations with Oracle.
- The rise of Android has further harmed the market for Java because Google's use of Java without a license has caused other actual and potential Java customers to think that they can do the same.
- Google's success with Android was in large part due to the strength of the market for Java.

7. **Georges Saab**: Mr. Saab is a current Oracle employee who, as Vice President, Software Development of the Java Platform Group, may present testimony regarding the development of Java, including the composition, structure and function of components of the Java platform, including the Java language, the Java APIs, and the virtual machine, and the relationship between Java SE and Java ME. He may testify that API design is a creative process and that well-designed APIs are desirable. Mr. Saab may also present testimony regarding Java marketing, the markets for Java-based products, including the market for mobile phones and new markets such as the Internet of Things, TVs, wearables, and cars, as examples, and competition in the marketplace for Java. Mr. Saab may also present testimony regarding the impact of Android on actual or potential markets for Java and the harm caused to the market for Java by

Android. Mr. Saab may also testify regarding Oracle's investment in Java and its importance.

Mr. Saab may testify that:

- Sun and Oracle were successful with Java in the feature phone market.
- Sun and Oracle licensed Java to several customers in both the feature phone and smart phone markets, such as Samsung, LG, Nokia, Blackberry/RIM, and Danger. *See, e.g.*, Ringhofer Dep. Ex. 1344, attached hereto as **Exhibit B**; Oracle's First Supplemental Responses and Objections to Google's Seventh Set of Interrogatories, dated December 16, 2015, attached hereto as **Exhibit C**; Exhibit 22 to the Expert Report of Adam Jaffe, Ph.D., dated February 8, 2016, attached hereto as **Exhibit D**.
- Competition with Android has harmed and continues to harm Java in the mobile phone market, including by causing the loss of Java customers who decided to move to Android, and that due to Android, Java was pushed out of the mobile phone market. *See, e.g.*, Ringhofer Dep. Ex. 1344, attached hereto as **Exhibit B**; Oracle's First Supplemental Responses and Objections to Google's Seventh Set of Interrogatories, dated December 16, 2015, attached hereto as **Exhibit C**; Exhibit 22 to the Expert Report of Adam Jaffe, Ph.D., dated February 8, 2016, attached hereto as **Exhibit D**.
- Competition with Android has also harmed and continues to harm other actual and potential markets for Java, including tablets/e-readers (such as the Amazon Kindle), the Internet of Things, TVs, wearables, and cars. *See, e.g.*, Ringhofer Dep. Ex. 1344, attached hereto as **Exhibit B**; Oracle's First Supplemental Responses and Objections to Google's Seventh Set of Interrogatories, dated December 16, 2015, attached hereto as **Exhibit C**; Exhibit 22 to the Expert Report of Adam Jaffe, Ph.D., dated February 8, 2016, attached hereto as **Exhibit D**.
- The processing power of mobile phones and other small devices increased rapidly with the evolution of the hardware for those devices. This created more opportunities for licensing Java ME and SE in a wide variety of devices. Android substantially impacted that market.

- The rise of Android has further harmed Java and the market for Java because Android is incompatible with Java and creates fragmentation and division within the community of Java developers that did not exist prior to Android.
- The rise of Android has undermined Java's "write once, run anywhere" principle.

8. **Mark Wayne**: Mr. Wayne is a current Oracle employee who, as Managing Counsel, may present testimony regarding Java licensing and the market for Java from a licensing perspective. Mr. Wayne may testify that there are various licenses available for Java, describe those licenses, and explain the terms and restrictions that apply to each type of license. Mr. Wayne may present testimony regarding how Oracle customers use different types of Java licenses in connection with their businesses. He may also present testimony regarding how Oracle addresses out-of-compliance licensees.

9. **Scott McNealy**: Mr. McNealy is the co-founder of Sun who may present testimony on the history of Java, including Java SE and ME and the relationship between SE and ME, and on the composition, structure, and function of components of the Java platform, including the Java language, the Java APIs, and the Java virtual machine. Mr. McNealy may also present testimony on Java API structure, design, and function, including the relationship between implementing code and declaring code in the Java platform. He may testify about the nature of the Java APIs, that designing APIs is a creative process, and about the choices made during that process. He may also testify that Java API packages are elegant and attract developers. He may testify as to what an API is generally and how it works. Mr. McNealy may also offer testimony regarding packages, classes, methods and interfaces and their roles within an API and the Java APIs specifically. Mr. McNealy may testify regarding the structure, sequence, and organization (the "SSO") of the Java API packages, and the significance and importance of the SSO, and he may testify specifically regarding the SSO and declaring code copied by Google and testify that what Google took is an important part of Java. Mr. McNealy may testify about the licenses offered by Oracle for Java and the importance of the "write once, run anywhere" principle. Mr. McNealy may also present testimony regarding compatibility across Java editions. Mr. McNealy may testify to the incompatibility of Android with Java and the harm

Android's incompatibility with Java has inflicted on Java, and Android's effect on the "write once, run anywhere" principle. Mr. McNealy may address stability of the Java platform, the length of time needed to establish stability in a software platform such as Java, and the reasons why Java was so popular and attractive to developers.

10. **Alan Brenner:** Mr. Brenner is a former Sun employee who, as former Senior Vice President of the Client Systems Group at Sun, may testify about the history of Java and on the composition, structure, and function of components of the Java platform, including the Java language, the Java APIs, and the Java virtual machine. He may testify about Java ME and Java SE, their evolution, their relationship, and their use on handheld and small devices. Mr. Brenner may testify about the evolution of hardware, enabling smaller devices to run software, such as SE, originally designed for larger devices and servers. He may testify that the Java language can be used without some or all of the 37 Java API packages and provide an opinion that some or all of the 37 Java API packages are not part of and not necessary for the Java language. Mr. Brenner may also present testimony regarding the markets for Java-based products, including the market for mobile phones, Sun's relationships and agreements with phone manufacturers and carriers for Java and competition in the marketplace for Java. Mr. Brenner may testify that Java was dominating the mobile phone market when he was at Sun. Mr. Brenner may also present testimony regarding the impact of Android on the actual and potential markets for Java, and may testify that Android harmed the market for Java, including the mobile phone market. Mr. Brenner may also testify regarding Sun's investment in Java and its importance. Mr. Brenner may also testify about Sun's licensing of the Java Platform, and if necessary for rebuttal, may testify regarding Sun's view, at the time Mr. Brenner was employed at Sun, that no commercial user would be interested in open source Java given the contractual requirements associated with using the required license.

Dated: February 29, 2016

KAREN G. JOHNSON-MCKEWAN
ANNETTE L. HURST
GABRIEL M. RAMSEY
PETER A. BICKS
LISA T. SIMPSON
Orrick, Herrington & Sutcliffe LLP

By: *Lisa T. Simpson*
LISA T. SIMPSON
Attorneys for Plaintiff
ORACLE AMERICA, INC.

PROOF OF SERVICE

I am over the age of eighteen years and not a party to the within-entitled action. My business address is Orrick, Herrington & Sutcliffe LLP, 2050 Main Street, Suite 1100, Irvine, CA 92614-8255. On February 29, 2016, I served the following document(s):

ORACLE'S SUPPLEMENTAL RULE 26(a)(2)(C) DISCLOSURES

on the interested parties in this action by electronic service [Fed. Rule Civ. Proc. 5(b)] by electronically mailing a true and correct copy, pursuant to Google's counsel's email dated August 24, 2015, to the following listserv:

DALVIK-KVN@kvn.com

I declare under penalty of perjury under the laws of the State of California and the United States that the above is true and correct.

Executed on February 29, 2016 at Laguna Beach, CA.

Christina Von der Ahe Rayburn
Christina Von der Ahe Rayburn

EXHIBIT A

Declarations in Classes Listed on TX1062 which are Subject to a Technical Constraint Imposed by the Java Language Specification

Class	Declaration (Partial or Full) Constrained by JLS
java.lang.AbstractMethodError	package java.lang public class AbstractMethodError ...
java.lang.ArithmeticException	package java.lang public class ArithmeticException ...
java.lang.ArrayIndexOutOfBoundsException	package java.lang public class ArrayIndexOutOfBoundsException ...
java.lang.ArrayStoreException	package java.lang public class ArrayStoreException ...
java.lang.AssertionError	package java.lang public class AssertionError ...
java.lang.ClassCastException	package java.lang public class ClassCastException ...
java.lang.ClassCircularityError	package java.lang public class ClassCircularityError ...
java.lang.ClassFormatError	package java.lang public class ClassFormatError ...
java.lang.Error	package java.lang public class Error extends Throwable
java.lang.Exception	package java.lang public class Exception extends Throwable
java.lang.ExceptionInInitializerError	package java.lang public class ExceptionInInitializerError ... public ExceptionInInitializerError(Throwable thrown)
java.lang.IllegalAccessError	package java.lang public class IllegalAccessError ...
java.lang.IllegalArgumentException	package java.lang public class IllegalArgumentException ...
java.lang.IllegalMonitorStateException	package java.lang public class IllegalMonitorStateException ...
java.lang.IncompatibleClassChangeError	package java.lang public class IncompatibleClassChangeError ...
java.lang.InstantiationError	package java.lang public class InstantiationError ...
java.lang.InstantiationException	package java.lang; public class InstantiationException ...
java.lang.InterruptedException	package java.lang public class InterruptedException ...
java.lang.LinkageError	package java.lang public class LinkageError ...

Declarations in Classes Listed on TX1062 which are Subject to a Technical Constraint Imposed by the Java Language Specification

Class	Declaration (Partial or Full) Constrained by JLS
java.lang.NegativeArraySizeException	package java.lang public class NegativeArraySizeException ...
java.lang.NoClassDefFoundError	package java.lang public class NoClassDefFoundError ...
java.lang.NoSuchFieldError	package java.lang public class NoSuchFieldError ...
java.lang.NoSuchMethodError	package java.lang public class NoSuchMethodError ...
java.lang.NullPointerException	package java.lang public class NullPointerException ...
java.lang.OutofMemoryError	package java.lang public class OutOfMemoryError ...
java.lang.RuntimeException	package java.lang public class RuntimeException extends Exception
java.lang.StackOverflowError	package java.lang public class StackOverflowError ...
java.lang.UnsatisifedLinkError	package java.lang public class UnsatisfiedLinkError ...
java.lang.VerifyError	package java.lang public class VerifyError ...
java.lang.VirtualMachineError	package java.lang public ... class VirtualMachineError ...
java.lang.Deprecated	package java.lang public @interface Deprecated
java.lang.Override	package java.lang public @interface Override
java.lang.SuppressWarnings	package java.lang public @interface SuppressWarnings String[] value()
java.lang.annotation.Annotation	package java.lang public interface Annotation
java.lang.annotation.Inherited	package java.lang.annotation public @interface Inherited
java.lang.annotation.Retention	package java.lang.annotation public @interface Retention public @interface Retention { RetentionPolicy ...
java.lang.annotation.Target	package java.lang.annotation public @interface Target ElementType[] value()

Declarations in Classes Listed on TX1062 which are Subject to a Technical Constraint Imposed by the Java Language Specification

Class	Declaration (Partial or Full) Constrained by JLS
java.lang.Boolean	package java.lang public ... class Boolean ... public boolean booleanValue()
java.lang.Byte	package java.lang public ... class Byte ...
java.lang.Character	package java.lang public ... class Character ... public char charValue()
java.lang.Double	package java.lang public ... class Double ...
java.lang.Float	package java.lang public ... class Float ...
java.lang.Integer	package java.lang public ... class Integer ...
java.lang.Long	package java.lang public ... class Long ...
java.lang.Short	package java.lang public ... class Short ...
java.lang.Void	package java.lang public ... class Void ...
java.lang.Class	package java.lang public ... class Class<...> ...
java.lang.ClassLoader	package java.lang public ... class ClassLoader
java.lang.Cloneable	package java.lang public interface Cloneable
java.lang.Enum	package java.lang public ... class Enum<...> ...
java.lang.Iterable	package java.lang public interface Iterable<...> ... iterator()
java.lang.Math	package java.lang public ... class Math

Declarations in Classes Listed on TX1062 which are Subject to a Technical Constraint Imposed by the Java Language Specification

Class	Declaration (Partial or Full) Constrained by JLS
java.lang.Object	package java.lang public class Object public final Class<?> getClass() public String toString() public boolean equals(Object obj) public int hashCode() protected Object clone() throws CloneNotSupportedException public final void wait() throws IllegalMonitorStateException, InterruptedException public final void wait(long millis) throws IllegalMonitorStateException, InterruptedException public final void wait(long millis, int nanos) throws IllegalMonitorStateException, InterruptedException public final void notify() throws IllegalMonitorStateException public final void notifyAll() throws IllegalMonitorStateException protected void finalize() throws Throwable
java.lang.Runtime	package java.lang public class Runtime public ... exit(...) ...
java.lang.String	package java.lang public ... class String ...
java.lang.System	package java.lang public ... class System ...
java.lang.Thread	package java.lang public ... class Thread ...
java.lang.ThreadGroup	package java.lang public class ThreadGroup ...
java.lang.Throwable	package java.lang public ... class Throwable ...
java.io.Serializable	package java.io public interface Serializable
java.lang.annotation.ElementType	package java.lang.annotation public ... ElementType TYPE FIELD METHOD PARAMETER, CONSTRUCTOR LOCAL_VARIABLE ANNOTATION_TYPE PACKAGE

Declarations in Classes Listed on TX1062 which are Subject to a Technical Constraint Imposed by the Java Language Specification

Class	Declaration (Partial or Full) Constrained by JLS
java.lang.annotation.RetentionPolicy	package java.lang.annotation public ... RetentionPolicy CLASS RUNTIME SOURCE

EXHIBIT B

Oracle America, Inc. v. Google Inc.
Case No. CV 10-03561 WHA

Examples of Java Customers, Potential Customers, and Lost Customers

Product Category	Customers (Actual, Lost or Potential) Including, But Not Limited To:
Phones	Samsung LGE Kyocera Sharp Panasonic RIM Motorola Nokia ZTE Huawei Vodafone Sony Ericsson
Wearables	LGE Samsung GE Healthcare
Automotive	VW Audi Daimler Truck BMW Bosch Toyota MicroDoc Software Hyundai Honda Chrysler Fuji Soft
Televisions	Ginga-J TPV TQDTV M-Star Samsung LG Sony Sharp Panasonic
Blu-Ray	Panasonic Sony LG

Product Category	Customers (Actual, Lost or Potential) Including, But Not Limited To:
Media Players (including Set-Top Boxes)	Cisco/Scientific Atlanta ADB PCL Lenovo BENQ Digivision OCN Broadcom Alticast Coship ZTE Toshiba Samsung Storage Technology (TSST)
Game Consoles	XBox PlayStation
Web Browsers	Opera Mini
Household Appliances	LGE Samsung Freescale GE Appliances
Internet of Things	Qualcomm Life eFlow Cisco Wind River Mitsubishi Electric Omron Daifuku Huawei Sercomm FIC Tridium NTT Telechips Deutsche Telekom
Tablets	RIM iWave Systems
Cameras	Nikon LGE
E-Book readers	Kindle Kindle Fire
VoIP Phones	Cisco
Printers	Lexmark Kyocera DS Fuji Xerox Canon

Product Category	Customers (Actual, Lost or Potential) Including, But Not Limited To:
GPS	Garmin Samsung
Vending Machines / Kiosks	Toshiba Star Panasonic Magtek Consolis Newland Sequoia/Kiosks4Business BSquared Future4POS
Payment Terminals and Point of Sale Systems	NCR Dibold Bradesco Clover Hoft & Wessel YesPay Enactor

EXHIBIT C

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UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN FRANCISCO DIVISION

ORACLE AMERICA, INC.,

Plaintiff,

v.

GOOGLE INC.,

Defendant.

Case No. CV 10-03561 WHA

ORACLE'S FIRST SUPPLEMENTAL RESPONSES AND OBJECTIONS TO GOOGLE'S SEVENTH SET OF INTERROGATORIES

Dept: Courtroom 8, 19th Fl.
Judge: Hon. William Alsup

RESPONSES TO INTERROGATORIES

INTERROGATORY NO. 34:

Describe in detail all licensing activities by or on behalf of Oracle and Relating to the Asserted Copyrights during the Recent Time, including without limitation a separate identification of all Persons or Entities with whom Oracle has negotiated, offered to negotiate, or executed a license to the Asserted Copyrights and the date of each such offer, negotiation, or execution as well as a description of the details of each such offer or license negotiation and the scope and terms of each such executed license, including whether it included a license to any other Oracle intellectual property.

INTERROGATORY RESPONSE NO. 34:

Oracle objects to this interrogatory as improperly compound and containing multiple distinct sub-parts. Oracle further objects to this interrogatory as overly broad and unduly burdensome generally and specifically to the extent it seeks "all licensing activities" and "a separate identification of all Persons or Entities." Oracle objects to this interrogatory on the grounds that the phrases "all licensing activities" and "a license to any other Oracle intellectual property" are vague and ambiguous. Also, as Oracle's damages and harm contentions are subject to ongoing discovery and expert analysis, Oracle objects to this interrogatory as premature. Oracle has not yet completed its investigation of the documents and facts relevant to the claims and defenses asserted in this action, and has not received relevant documents and information from Google or third parties. Accordingly, Oracle's response will be based on the information reasonably available to it at this time and Oracle will supplement its response as appropriate under the Federal Rules of Civil Procedure. Subject to these objections, Oracle responds as follows:

Oracle's efforts to license Java, including the Asserted Copyrights, have been hindered by the availability of Android free of charge. Despite this, Oracle has made efforts to license Java in the area of non-general purpose devices, including for example, embedded devices, the Internet of Things and mobile devices, and including particularly web browsers, wearable devices, televisions, media players, gaming consoles, in-car displays, household appliances and enterprise

devices. The following are examples of Oracle's efforts to license Java in these areas:

BEGIN ORACLE HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY

- ***Wearables.*** Oracle has made efforts to license Java in the area of wearables, including for use in watches. For example, Oracle is in discussion with LG to license Java technology for use in wearable devices.
- ***Automotive.*** Oracle has made efforts to license Java in the area of automotive. For example, Oracle licenses Java technologies to Volkswagen Group for use in its cars.
- ***Televisions.*** Oracle has made efforts to license Java in the area of televisions and set-top boxes. For example, Oracle licenses Java technologies to television manufacturers that support the Ginga-J middleware specification for the Brazilian Digital TV Standard.
- ***Media Players.*** Oracle has made efforts to license Java in the area of media players. For example, Oracle licenses Java technologies to Blu-ray manufacturers as it relates to the BD-J (Blu-ray Disc Java) specification. Manufactures include Panasonic, MTK, and Sony.
- ***Game Consoles.*** Oracle has made efforts to license Java in the area of game consoles. For example, Oracle licenses Java technologies to Sony for its PlayStation 3 and PlayStation 4 game consoles.
- ***Web Browsers.*** Oracle has made efforts to license Java in the area of web browsers, for example in Opera Mini.
- ***Household Appliances.*** Oracle has made efforts to license Java for use in household appliances. For example, Oracle has made efforts to license Java for use in Samsung air conditioners.
- ***Internet of Things.*** Oracle has made efforts to license Java for use in devices commonly referred to as the "Internet of Things" ("IoT"). Oracle has licensed Java for use in a home gateway in Europe. Oracle also has approved a global strategy for pursuing license opportunities for business-enterprise based IoT licensing. Oracle has narrowed its strategy to pursue the IoT business in the enterprise context in part because Android is so dominant in the consumer context.

END ORACLE HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY

Pursuant to Federal Rule of Civil Procedure 33(d), for examples of licensing documents, Oracle refers Google to the documents bates labeled OAGOOGLE0000083003-OAGOOGLE0000102539, OAGOOGLE0100000000-OAGOOGLE0100044893, OAGOOGLE2000157971-166380, OAGOOGLE2000003709, OAGOOGLE2000003710, OAGOOGLE2000003711, OAGOOGLE2000003712, OAGOOGLE2000003713, OAGOOGLE2000003714, OAGOOGLE2000003715.

FIRST SUPPLEMENTAL INTERROGATORY RESPONSE NO. 34

Oracle objects to this interrogatory as improperly compound and containing multiple distinct sub-parts. Oracle further objects to this interrogatory as overly broad and unduly burdensome generally and specifically to the extent it seeks "all licensing activities" and "a separate identification of all Persons or Entities." Oracle objects to this interrogatory on the grounds that the phrases "all licensing activities" and "a license to any other Oracle intellectual property" are vague and ambiguous. Also, as Oracle's damages and harm contentions are subject to ongoing discovery and expert analysis, Oracle objects to this interrogatory as premature. Oracle has not yet completed its investigation of the documents and facts relevant to the claims and defenses asserted in this action, and has not received relevant documents and information from Google or third parties. Accordingly, Oracle's response will be based on the information reasonably available to it at this time and Oracle will supplement its response as appropriate under the Federal Rules of Civil Procedure. Subject to these objections, Oracle responds as follows:

Oracle's efforts to license Java, including the Asserted Copyrights, have been hindered by the availability of Android free of charge. Despite this, Oracle has made efforts to license Java in the area of mobile phones, embedded devices, the Internet of Things and mobile devices, and including web browsers, wearable devices, televisions, set-top boxes, media players, media streaming devices, gaming consoles, in-car displays and other automotive systems, household appliances, cameras, electronic book readers, tablets, VoIP phones, printers, aviation systems, payment terminals, point of sale systems, automated teller machines, vending machines, kiosks, toy trains, navigations systems, and wireless modems. The following are examples of Oracle's

efforts to license Java in these areas:

BEGIN ORACLE HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY

- ***Mobile Phones***. Oracle has made efforts to license Java in the area of mobile phones. For example, Oracle has recently entered into a new license agreement with Samsung.
- ***Wearables.*** Oracle has made efforts to license Java in the area of wearables, including for use in watches. For example, Oracle is in discussion with LG to license Java technologies for use in wearable devices and Oracle has made efforts to license Java technologies to Samsung for use in wearable devices.
- ***Automotive.*** Oracle has made efforts to license Java in the area of automotive. For example, Oracle licenses Java technologies to Volkswagen Group for use in its cars.
- ***Television and Set-Top Boxes.*** Oracle has made efforts to license Java in the area of televisions, set-top boxes, and media streaming devices. For example, Oracle licenses Java technologies to television manufacturers that support the Ginga-J middleware specification for the Brazilian Digital TV Standard, and has attempted to license Java technologies to Samsung for use in its smart televisions. Additionally, Oracle has licensed Java technologies to set-top box manufacturers and distributors including, but not limited to, Echostar and ZTE.
- ***Media Players and Media Streaming Devices.*** Oracle has made efforts to license Java in the area of media players and media streaming devices. For example, Oracle licenses Java technologies to Blu-ray manufacturers as it relates to the BD-J (Blu-ray Disc Java) specification. Manufactures include Panasonic, MTK, and Sony.
- ***Game Consoles.*** Oracle has made efforts to license Java in the area of game consoles. For example, Oracle licenses Java technologies to Sony for its PlayStation 3 and PlayStation 4 game consoles.
- ***Web Browsers.*** Oracle has made efforts to license Java in the area of web browsers, for example in Opera Mini.
- ***Household Appliances.*** Oracle has made efforts to license Java for use in household appliances. For example, Oracle has made efforts to license Java technologies for use in Samsung air conditioners and to GE Appliances for use in refrigerators and washing machines.

- ***Internet of Things.*** Oracle has made efforts to license Java for use in devices commonly referred to as the "Internet of Things" ("IoT"). For example, Oracle has licensed Java for use in a home gateway in Europe. Oracle has also attempted to license Java technologies to Qualcomm Life for use in a home healthcare gateway and to eFlow for use in a home gateway. Oracle also has approved a global strategy for pursuing license opportunities for business-enterprise based IoT licensing. Oracle has narrowed its strategy to pursue the IoT business in the enterprise context in part because Android has achieved dominance in the consumer context having benefited from misappropriating Java technology.
- ***Tablets.*** Oracle has made efforts to license Java in the area of tablets. For example, Oracle licenses Java technologies to Nokia for use in its Nokia 770, 800 and N810 tablets.
- ***Cameras.*** Oracle has made efforts to license Java in the area of digital cameras, for example Oracle has attempted to license Java technologies to Nikon and LGE.
- ***Electronic Book Readers***. Oracle has made efforts to license Java in the area of electronic book ("e-book") readers. For example, Oracle licenses Java technologies to Amazon for use in its Kindle e-readers.
- ***VoIP Phones.*** Oracle has made efforts to license Java in the area of Voice over IP ("VoIP") phones. For example, Oracle licenses Java technologies to Cisco for use in its VoIP phones.
- ***Printers***. Oracle has made efforts to license Java in the area of printers. For example, Oracle has licensed Java technologies to Xerox and attempted to license Java technologies to Lexmark for use in each company's multi-function printers.
- ***Aviation Systems.*** Oracle has made efforts to license Java in the area of in flight entertainment systems. For example, Oracle has attempted to license Java technologies to Flextronics, India for use in in-flight entertainment systems and has licensed Java technologies to Gulf Stream for use in cabin management systems.
- ***Payment Terminals, Point of Sale Systems and ATMs.*** Oracle has made efforts to license Java in the area of payment terminals, point of sale systems and automated teller machines

("ATMs"). For example, Oracle has attempted to license Java technologies to Flytech Group, Firich Enterprises and Posiflex for use in their point of sale systems, and has licensed Java technologies to Bradesco for use in its ATMs.

- ***Vending Machine and Kiosks.*** Oracle has made efforts to license Java in the area of vending machines and kiosks. For example, Oracle has made efforts to license Java technologies to IEI Integration for use in its vending machines.
- ***Toys.*** Oracle has made efforts to license Java in the area of toys. For example, Oracle has made efforts to license Java technologies to Gebr. Märklin & Cie. GmbH for use in toy trains.
- ***Navigation Systems.*** Oracle has made efforts to license Java in the area of navigations systems. For example. Oracle has made efforts to license Java technologies to TomTom for use in its navigation systems.
- ***Wireless Modems.*** Oracle has made efforts to license Java in the area of wireless modems. For example, Oracle has made efforts to license Java technologies to Telechips.

END ORACLE HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY

Pursuant to Federal Rule of Civil Procedure 33(d), for examples of licensing documents, Oracle refers Google to the documents bates labeled OAGOOGLE0000083003-OAGOOGLE0000102539, OAGOOGLE0100000000-OAGOOGLE0100044893, OAGOOGLE2000157971-166380, OAGOOGLE2000003709, OAGOOGLE2000003710, OAGOOGLE2000003711, OAGOOGLE2000003712, OAGOOGLE2000003713, OAGOOGLE2000003714, OAGOOGLE2000003715.

INTERROGATORY NO. 35:

Identify any efforts by Oracle during the Recent Time to utilize the Asserted Copyrights in connection with the market for mobile devices, including but not limited to designing, building, licensing, supporting, or promoting products for use in the market for smartphones, including without limitation anything intended for use with or based on any version of Android (e.g., JavaFX, Project Jigsaw, OpenJDK Mobile Project, Oracle Mobile Application Framework, Oracle Application Development Framework, Oracle Mobile Cloud Service, Oracle Berkeley DB

Java Edition on Android, RoboVM, Gluon).

INTERROGATORY RESPONSE NO. 35:

Oracle objects to this interrogatory as improperly compound and containing multiple distinct sub-parts. Oracle further objects to this interrogatory as overly broad and unduly burdensome generally and specifically to the extent it seeks "any efforts." Oracle objects to this interrogatory on the grounds that the phrases "any efforts," "utilize the Asserted Copyrights," "in connection with," and "for use in the market" are vague and ambiguous. Also, as Oracle's damages and harm contentions are subject to ongoing discovery and expert analysis, Oracle objects to this interrogatory as premature. Oracle has not yet completed its investigation of the documents and facts relevant to the claims and defenses asserted in this action, and has not received relevant documents and information from Google or third parties. Accordingly, Oracle's response will be based on the information reasonably available to it at this time and Oracle will supplement its response as appropriate under the Federal Rules of Civil Procedure. Subject to these objections, Oracle responds as follows:

Oracle has utilized the Asserted Copyrights during the Recent Time in connection with the embedded device space, which includes mobile devices, such as wearable devices and media players. In the Recent Time, Oracle would have utilized the Asserted Copyrights to a greater extent in connection with mobile phones if Google had not, through its infringement of the Asserted Copyrights, usurped Oracle's potential market to utilize the Asserted Copyrights in connection with mobile phones. Oracle had an effort at the time of the acquisition of Sun to scope out going after a phone market, but that effort had to be abandoned because of the presence of Google's infringing Android in the market. Notwithstanding Google's infringement, Oracle continues to license and to attempt to license its Java technology to companies that produce phones and similar devices, and thus continues to pursue a strategy related to mobile device companies as best as it can, and there are still companies that license Java for phones. Oracle has no intention of abandoning its efforts to license Java for mobile phones and continues to make significant investment to license Java for mobile phones. Oracle was more successful at licensing Java for mobile phones in the past, but since the introduction of Google's infringing Android,

Oracle's mobile revenues have been declining.

Mobile OpenJDK Project is a project at Java.net, also called Phone ME. In 2006 Java ME was provided pursuant to the GPL license. Because of Google's infringement of the Asserted Copyright in Android, and Android's usurping of the market relating to mobile phones, Oracle has no current plans with respect to Phone ME. Currently there is also no specific plan to modify OpenJDK code for mobile phones, because of the presence of Google's infringing Android in the market.

Because of Google's infringement of the Asserted Copyrights in Android, and Android's usurping of the market relating to mobile devices, Oracle has had to develop its Mobile Application Framework ("MAF"), which is a developer tool for building mobile applications, including for Oracle's Mobile Cloud Service. Oracle's mobile Application Development Framework ("ADF") was the prior name of MAF. The necessity of creating and offering MAF constitutes an injury to Oracle, because if the infringing, incompatible Android was not offered in the market, it would not have been necessary to expend resources creating such a framework.

Within Oracle's JDK, Oracle licenses Java FX, which is used to create user interfaces for mobile phones and other devices. Within OpenJDK the Java FX code is also licensed. A third party company called Gluon is looking at building Java FX based developer frameworks.

Project Jigsaw is a project that allows application developers to deliver smaller applications, for example, to gain the benefit of security in that shipping a smaller application has a smaller footprint for hackers to attack. Another advantage is size. Developers are able to take applications, and package them smaller, so that the application can run on smaller devices and use less memory or CPU power, and also allows more parallel instances of an application to run in a cloud setting. This also further enables ahead of time compilation, for example, to enable faster start-up time. With Project Jigsaw, an application developer would have access to the full and complete Java SE SDK and platform, including all libraries, and would write an application with that full and complete platform. After the application was written, it would be run through tools made available by Project Jigsaw which creates the application in its smallest form. Such applications would run on any compatible implementation of Java.

INTERROGATORY NO. 36:

Identify all actual or threatened fragmentations, or "forks," of Java during the Recent Time, and for each such actual or threatened fragmentation or fork, describe in detail all efforts by Oracle, if any, to encourage, discourage, prevent, or stop the fragmentation or fork.

INTERROGATORY RESPONSE NO. 36:

Oracle objects to this interrogatory as improperly compound and containing multiple distinct sub-parts. Also, as Oracle's damages and harm contentions are subject to ongoing discovery and expert analysis, Oracle objects to this interrogatory as premature. Oracle has not yet completed its investigation of the documents and facts relevant to the claims and defenses asserted in this action, and has not received relevant documents and information from Google or third parties. Accordingly, Oracle's response will be based on the information reasonably available to it at this time and Oracle will supplement its response as appropriate under the Federal Rules of Civil Procedure. Subject to these objections, Oracle responds as follows:

The only actual or threatened fragmentation or fork of Java during the Recent Time that Oracle has had to attempt to discourage, prevent or stop is Google's infringing Android. Oracle has had to file the instant lawsuit to prevent Google's fragmentation and forking of Java. In general, Oracle attempts to discourage, prevent or stop fragmentation and forking of Java by a carefully developed licensing framework that requires and encourages compatibility of Java within each Java platform, including Java SE and Java ME. Oracle requires and encourages compatibility through legal requirements in its licenses, through licensing requirements that deter distribution of non-compatible implementations of Java, through providing TCKs for Java that test compatibility, and through cultivating values in the Java ecosystem to maintain compatibility of Java and to adhere to the "write once, run anywhere" concept of Java.

INTERROGATORY NO. 37:

Identify all Persons that Oracle believes in good faith it is likely to call as a witness at trial in this Action.

INTERROGATORY RESPONSE NO. 37:

Oracle's development of its case and contentions are subject to ongoing discovery and

analysis, and the deadline to disclose trial witnesses pursuant to relevant rules and orders of the Court has not yet occurred, and therefore Oracle objects to this interrogatory as premature. Oracle has not yet completed its investigation of the documents and facts relevant to the claims and defenses asserted in this action, and has not received relevant documents and information from Google or third parties. Oracle's trial witness list is not due until the deadline set forth in the Federal Rules of Civil Procedure and the Court's local rules and schedule. Thus, this request is premature, and Oracle will respond at the appropriate time.

Dated: December 16, 2015

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ANNETTE L. HURST
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PETER A. BICKS
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By: */s/Gabriel M. Ramsey*
GABRIEL M. RAMSEY
Attorneys for Plaintiff
ORACLE AMERICA, INC.

PROOF OF SERVICE

I am over the age of eighteen years and not a party to the within-entitled action. My business address is Orrick, Herrington & Sutcliffe LLP, 1000 Marsh Road, Menlo Park, CA 94025. On December 16, 2015, I served the following document(s):

ORACLE'S FIRST SUPPLEMENTAL RESPONSES AND OBJECTIONS TO GOOGLE'S SEVENTH SET OF INTERROGATORIES

on the interested parties in this action by electronic service [Fed. Rule Civ. Proc. 5(b)] by electronically mailing a true and correct copy, pursuant to Google's counsel's email dated August 24, 2015, to the following listserv:

DALVIK-KVN@kvn.com

I declare under penalty of perjury under the laws of the State of California and the United States that the above is true and correct.

Executed on December 16, 2015 at Redwood City, California

/s/ Robert L. Uriarte
Robert L. Uriarte

EXHIBIT D

Oracle America, Inc. v. Google Inc.
Case No. CV 10-03561 WHA

Exhibit 22: Examples of Java Customers, Potential Opportunities, and Lost Opportunities

Product Category	OEM	Source	Quote
Phones	General	OAGOOGLE0000154715	• "Java is the used [*sic*] extensively for Smartphone class devices[.] 8 of 10 leading Smartphone platforms are Java based[.]"; slide generally contains plans for not only mobile but TV and other markets.
Phones	Samsung	OAGOOGLE2000031102	• "VP Cho believes #1 benefit to Samsung is Oracle support for Samsung Android devices … VP No suggested we should convert all of our Java developers to Android."
		OAGOOGLE2000059830	• "My fear is that Gaia goes with Google/Android. . . Gaia/Aplix/iaSolution is deep rooted in Japan and China. Losing Gaia in Java community means a huge mountain to climb for Java embedded business in JAPAC."
		OAGOOGLE2000180299	• "Samsung loyalty [sic] reports covers the whole Samsung models but not detailed for each VM vendor. However, we know even the volume of feature phones drastically decreasing, still Samsung phones (w/ GAIA VM ported) are being launched. If Oracle no longer renews the license to GAIA, then it will impact to Samsung phone launching and can cause big issues."
		Deposition of Mike Ringhofer, Dec. 2, 2015, 20:9-21	• "Q. Does Oracle currently have a license agreement with Samsung? A. Yes. Q. What does that license agreement cover? A. We also have a variety of licensing—fields of use with Samsung. One of those being with phones."
		Deposition of Mike Ringhofer, Dec. 2, 2015, 69:13-25	• "So Samsung is one of the largest phone providers on the planet. Approximately three years ago we did a roughly $44 million prepay with them for Java ME. We just did a deal last week with them for the same phones at approximately $1 million. That is significant erosion in three years. I have heard from my sales team that engineers at Samsung have said, "Why should we pay for Java, when we get it for free 'cause it's in Android."
		Deposition of Mike Ringhofer, Dec. 2, 2015, 81:22-24	• "Q. So Oracle is actively pursuing Samsung to license Java in mobile phones? A. Yes."

Product Category	OEM	Source	Quote
		Deposition of Georges Saab, Dec. 16, 2016, 47:17-22	• "Q. Is Oracle currently trying to win new deals with Samsung? A. We're absolutely trying to win new deals with Samsung, yes." • "Q. As you sit here today, are you aware of any reason for why Samsung is using Android instead of Java ME? THE WITNESS: You know, cost is going to be a substantial reason for sure."
Phones	LG Electronics	Deposition of Mike Ringhofer, Dec. 2, 2015, 18:1-10	• Q. Does Oracle currently have a license agreement with LG? A. Yes. Q. And what does that license agreement cover? A. We -- we have -- we have a few -- well, there's a few different arrangements. They're licensed in multiple products. But they are still a licensee on a number of phones."
Phones	Kyocera	Deposition of Mike Ringhofer, Dec. 2, 2015, 23:14-22 Deposition of Mike Ringhofer, Dec. 2, 2015, 87:4-7 OAGOOGLE2000125785	• "Q. Does Oracle currently have a license with Kyocera? A. Yes. Q. What is that license? A. They are also licensed for our handsets -- phones, and I'm trying -- mainly -- yeah, phones and I'm trying to think if there's other use cases. Mainly phones." • "Q. Is Oracle actively trying to license Java to Kyocera for use in mobile phones? A. We are." • "Though we have an approval of MDE, now the schedule is a big concern, as we found the Inbound License was not completed between Oracle and Qualcomm US side for us to start work on the target board. The license with Qualcomm seems to take further time . . . We will continue talking to KDDI, Kyocera and Qualcomm, watching our US HQ movement."
Phones	Sharp	Deposition of Mike Ringhofer, Dec. 2, 2015, 24:4-10 Deposition of Mike Ringhofer, Dec. 2, 2015, 87:19-254	• Q. And does Oracle currently have a license with Sharp? A. Yes. Q. What does that license cover? A. I know there's phones that are covered." • "Q. Is Oracle actively trying to license Java to Sharp for use in mobile phones? A. We would be actively looking to license to Sharp on new phones that come out, yes. I'm -- yes."
Phones	Panasonic	Deposition of Mike Ringhofer, Dec. 2, 2015, 72:19-73:1 Deposition of Mike Ringhofer, Dec. 2, 2015, 88:3-11	• "Q. Okay. Looking at the "Phones" category, who amongst the companies listed in the second column are current Oracle licensees? A. Current … Panasonic is current." • "Q. Is Oracle actively trying to license Java to Panasonic for use in mobile phones? A. So—with the existing deal, yes, we will again, as I don't know where that end date is. And on new phones where there is an opportunity when they launch, we would look to win the business of the new phones as well."
Phones	RIM	Deposition of Mike Ringhofer, Dec. 2, 2015, 44:19-45:5	• Q. Okay. And is RIM a current Oracle licensee? A. Not current. Q. Was RIM at one time an Oracle licensee? A. Yes. Q. And what was

Product Category	OEM	Source	Quote
			it that RIM had licensed from Oracle? A. They had licensed Java ME for their phones.
		Deposition of Mike Ringhofer, Dec. 2, 2015, 46:3-9	• "Q. Okay. And did Oracle try to renew a contract with RIM? A. We -- we were told that there were no more units using Java. So I guess there was really no further discussions."
		Deposition of Mike Ringhofer, Dec. 2, 2015, 51:13-20	• "Is it your belief that absent Android, Oracle would have secured a contract with RIM to place Java in new RIM phones? A. I certainly think we would have had a good shot, yes."
		Deposition of Mike Ringhofer, Dec. 2, 2015, 88:15-24	• "Q. Is Oracle actively trying to license Java for RIM for use in mobile phones? A. We -- I am not aware of any discussions that are going. As we said earlier, they are not a licensee. Clearly, there's an opportunity for us because they're running on Android. But they don't want to pay us when they get it for free in Android."
		Deposition of Georges Saab, Dec. 16, 2016, 59:8-16	• "RIM was a Java licensee for many, many years -- I believe still is -- and at -- at some point, you know, found that the -- they -- they went from building phones that were based on Java to build- -- adding phones that were based on Android."
		Deposition of Henrik Stahl, Jan. 14, 2016, 149:9-14	• "Was Oracle's deal with BlackBerry a license for Java ME? A. I'm not entirely sure, but I believe that RIM licensed CDC. RIM is the company that builds BlackBerry phones. I believe they licensed CDC, which is an ME specification."
Phones	Motorola	OAGOOGLE2000011623	• "Java business at Moto dropped off significantly last fiscal [2012] due to their commitment to Android and eventual purchase of Mot Mobility patents by Google."
Phones	Nokia	OAGOOGLE2000181111 OAGOOGLE2000180278	• "Nokia is blocked in some countries by carriers who require devices to run with certain apps—e.g. "Instagram" • Nokia approaches Instagram who says—"we won't port to Java—Java is dead, etc."
Phones	Vodafone	OAGOOGLE2000181179	• Vodafone "Statement of Work No. 5 to Sun Engineering Services Agreement No. 136188, Version 1.11, Issued 19th January 2004"
Phones	Sony Ericsson	OAGOOGLE2000061527 OAGOOGLE0000804592 OAGOOGLE2000061817	• "SEMC is quickly phasing out their feature phone portfolio … The rest of their handsets arer [sic] based on Android." • "their [sic] increasing usage of Android and reducing usage of Java" • "SEMC – they have been designing us out for Android … it seems that they want some relationship with us as a hedge"

Product Category	OEM	Source	Quote
Phones	ZTE	Deposition of Mike Ringhofer, Dec. 2, 2015, 76:11-19	• "Q. Of the companies that are listed on this list in the "Phones" category, can you identify which ones you believe Oracle lost to Android? A. Samsung, LGE -- well, ZTE, Huawei, RIM, Motorola now Lenovo, Sharp, Panasonic, Sony is no longer an entity, I believe. That partnership -- well, went away. And I'm not sure about Vodafone."
		OAGOOGLE2008898614	• "ZTE is using 100% OJWC [Oracle Java Wireless Client] for all their feature phones."
Phones	Huawei	Deposition of Mike Ringhofer, Dec. 2, 2015, 76:11-19	• "Q. Of the companies that are listed on this list in the "Phones" category, can you identify which ones you believe Oracle lost to Android? A. Samsung, LGE -- well, ZTE, Huawei, RIM, Motorola now Lenovo, Sharp, Panasonic, Sony is no longer an entity, I believe. That partnership -- well, went away. And I'm not sure about Vodafone."
		OAGOOGLE2008898614	• "However, you may check with Land for Huawei who is using significant Gaia/Aplix implementations across couple of product lines from GSM/GPRS to TD_SCDMA which doesn't pass-through the revenue from Gaia/Aplix to Oracle but pay directly from Huawei in prepay license with Oracle, the impact may be big to Huawei if Gaia/Aplix drop the Java license."
Phones	HTC	OAGOOGLE0001156560	• "It was a sobering meeting for Oracle as our HTC counterparts explained how their java shipments will dry up very quickly as they migrate over to Android devices. Furthermore and most importantly for us, they intend not to make any prepayment."
Phones	Sprint, Verizon, AT&T, T-Mobile	OAGOOGLE0000799926	• "I see Android and am run over by it in all accounts."
Wearables	General	OAGOOGLE2000075576	• "Digital Medical Equipment Industry, Smart communications, Industry challenges: Wearable, hands-free"
Wearables	LG Electronics	OAGOOGLE2000023928	• "It happens what we were afraid of in Korea IoT market. … LG Electronics will also announce Android-Wearable platform as a wearable device (within 3 months)"
		OAGOOGLE2000022801 OAGOOGLE2000023647 OAGOOGLE2000022801	• "Java Design Win Business Plan version 2 . . . LGE IoT Health Device"
		OAGOOGLE2000131360	• We have a $220K ME8.1 FPE opportunity with LGE IoT team for healthcare and other smart devices." March 2015 email

Product Category	OEM	Source	Quote
		Deposition of Mike Ringhofer, Dec. 2, 2015, 102:12-14	• Q. So is there currently a license [in wearables] with LG? A. There is not."
Wearables	Samsung	OAGOOGLE2000054847	• "2H FY14 Samsung Account Plan . . . JavaME Embedded for Samsung Wearable Platform . . . Become standard platform for Samsung wearable devices"
		OAGOOGLE2000077924	• "They made a small size blood checker … They were interested in Android Framework, but did not look into much due to busy schedule … ."
		OAGOOGLE2000023808	• "Samsung project team needs to have USP (User Sale Point) with Java platform to persuade their upper management who are on Android platform side"
		Deposition of Mike Ringhofer, Dec. 2, 2015, 83:6-10	• "So we are constantly looking at business. Samsung is a huge device manufacturer. In the list they're in wearables. We're pursuing to get them on a Smartwatch. We lost that to Android."
		Deposition of Mike Ringhofer, Dec. 2, 2015, 102:15-18	• "Q. Is there a current license with Samsung for use of Java in any wearable? A. There is not because they have selected Android."
Wearables	GE Healthcare	OAGOOGLE2000128379	• "Regarding GE healthcare, its [sic] not yet accepted because it is not a Java embedded opportunity and the devise [sic] platform chosen is Android."
		Deposition of Mike Ringhofer, Dec. 2, 2015, 102:19-23	• Q. And is there a current license between Oracle and GE Healthcare for a wearable device? A. There is not because they had selected Android as well."
Automotive	General	OAGOOGLE2000095625	• "Java Business Status IoT and Verticals . . . Embedded Java Revenue Opportunity Capturing 35% of Vehicle Volumes . . . Ten Year Opportunity $1B+"
Automotive	Volkswagen	OAGOOGLE2000055353	• "Not only JavaME 8 is the Volkswagen requirement but also JavaME 8 is the best platform for this type of device … Volkswagen and LGE have experiences with less quality of other vendor solutions such as IBM J9 and Android. This JavaME 8 platform will mitigate their concerns."
		Deposition of Mike Ringhofer, Dec. 2, 2015, 26:7-14	• Q. Does Oracle currently have a license with Volkswagen? A. Yes. Q. What is covered by that license? A. Not sure. It would be one of either Java SE or Java ME."
		Deposition of Mike Ringhofer, Dec. 2, 2015, 109:12-110:1	• "Q. Okay. Of the companies listed under the "Automotive" category, who amongst them has Oracle lost business due to Android? "I'm also aware of an earlier opportunity at VW, … to the best of my knowledge, center around the kind of the infotainment -- the head unit, the main unit that when you get into your car you're

Product Category	OEM	Source	Quote
		Deposition of Mike Ringhofer, Dec. 2, 2015, 110:4-12	looking at, at controls, the climate, the radio, that head unit. I believe in all three scenarios we participated lost to Android." • "Did Oracle have a license with Volkswagen and then Volkswagen moved to Android? A. We did not. We competed, and they're extremely price-sensitive, and unfortunately our price was more than free."
Automotive	Audi	OAGOOGLE2006035268	• "I was hable [sic] to finalize the Eval license type D, therefore now MicroDoc can deliver the port to VW and Audi."
Automotive	Daimler Truck	Deposition of Mike Ringhofer, Dec. 2, 2015, 106:9-11	• "Daimler Truck, my understanding is that is an opportunity license via MicroDoc."
Automotive	BMW	Deposition of Mike Ringhofer, Dec. 2, 2015, 105:20-106:18	• "Q. Okay. Looking at 'Automotive,' the third row on Exhibit 1344, does Oracle currently have a license with any of the companies listed there? … A. BMW is licensed as well. I'm just not sure if it's directly through BMW or a partner."
Automotive	Bosch	Deposition of Mike Ringhofer, Dec. 2, 2015, 108:15-109:5	• "What about Bosch? A. My understanding is, is they're directly licensed from us. Q. What have they licensed? A. I believe it's Java ME. Q. And for what purpose? A. So there's an on-board diagnostic port on vehicles, and they have a module that plugs into the diagnostic port -- or Obd2, or whatever it's called, and it tracks how someone's driving the car, how aggressive are they, how fast they accelerate, how fast they brake, and they typically sell this system or this service to leasing companies to make sure the cars are not being abused."
Automotive	Toyota	OAGOOGLE2000128185 OAGOOGLE2000180517	• "Google pushing Android but only Honda is using. I also hearing Nissan goes to Android. . . . Many partners in Japan such as Freescale, Hitachi, Fujisoft, and Toyota Tsusho are eager to do more in this space and seek to use Java as part of their solution." • "Java for Automotives: Situations and what we do today . . . Toyota Tsusho…strategic relationship to build relationship with Denso."
Automotive	MicroDoc Software	Deposition of Mike Ringhofer, Dec. 2, 2015, 25:22-26-6 Deposition of Georges Saab, Dec. 16, 2016, 97:20-25 OAGOOGLE2006035268	• "Does Oracle currently have a license with MicroDoc? A. Yes. Q. And what is covered by that license? A. I don't know the specifics of what products. Certainly Java SE, don't -- don't know what else." • "Q. So is it fair to say that currently the Microdoc license is the only Java license related to the automotive industry that Oracle has executed? THE WITNESS: So directly, that's what I'm aware of." • "I was hable [sic] to finalize the Eval license type D, therefore now MicroDoc can deliver the port to VW and Audi."

Product Category	OEM	Source	Quote
Automotive	Hyundai	Deposition of Mike Ringhofer, Dec. 2, 2015, 109:12-17 Deposition of Mike Ringhofer, Dec. 2, 2015, 110:13-15	• "Q. Okay. Of the companies listed under the "Automotive" category, who amongst them has Oracle lost business due to Android? A. I'm aware of Hyundai and Honda, specifically." • "Q. Did Oracle have a license with Hyundai or Honda? A. We did not. Not for Java."
Automotive	Honda	Deposition of Mike Ringhofer, Dec. 2, 2015, 109:12-17 Deposition of Mike Ringhofer, Dec. 2, 2015, 110:13-15 OAGOOGLE2000095625 at 629	• "Q. Okay. Of the companies listed under the "Automotive" category, who amongst them has Oracle lost business due to Android? A. I'm aware of Hyundai and Honda, specifically." • "Q. Did Oracle have a license with Hyundai or Honda? A. We did not. Not for Java." • Android in Honda
Automotive	Fuji Soft	OAGOOGLE2000118005	• "Opportunities . . . Every Automotive OEM need connected car platform with high security and robustness . . . Threats . . . Google Android"
Automotive	Tellit	Deposition of Georges Saab, Dec. 16, 2016, 106:21-107:2	• "Q. What about Tellit? Does Oracle have a license with them for Java? A. Yes. Q. For use of Java in automotives? A. Yes. Q. And that's a current license? A. I believe so, yes."
Automotive	Denso	Deposition of Georges Saab, Dec. 16, 2016, 148:25-149:7 OAGOOGLE2000039770	• "Q. So you don't know one way or the other whether or not any interest at all has been expressed by Denso with regards to a business relationship with Oracle? A. I know that I had a meeting with Denso in order to discuss our technology and the state of it and -- and where it was going. Q. What technology? A. Java SE Embedded specifically." • "Fortunately, Denso is now evaluating Java SE-E8 of QNX/ARM for in-car gateway and making a demo application for their private exhibition at the end of March. We need to offer not only Java VM technology but also Oracle back-end solutions which are clouds, Middleware and center server. And they are interested in other customer use case."
Automotive	Tata Motors Telematics	OAGOOGLE2000097108	• "Eventually Tata Motor decided to go with Android solution"
Televisions	Ginga-J	OAGOOGLE2000030936	• "The communications group at Broadcom owns 70% of the digital Set Top box processor market and let us know it was approximately worth $2 billion dollars. BRICA is definitely a target focus for Broadcom, along with any ideas on how to maintain and grow their current market share using Oracle Java. Broadcom is acutely aware of OCAP, Tru2Way, Ginga-J etc so there is not a lot of convincing to do that Java is a market requirement."

Product Category	OEM	Source	Quote
Televisions	TPV	Deposition of Mike Ringhofer, Dec. 2, 2015, 111:7-12 OAGOOGLE2008695851	• "Q. For "Televisions," of the companies listed here on Exhibit 1344 in the "Television" category, who amongst them is a current Oracle licensee? A. TPV, TQDVD and M-Star, they are all licensees." • "FY15 Outlook. Opportunity: TPV—Royalty, Odds: 50%, Q4: $500,000"
Televisions	TQTVD	Deposition of Mike Ringhofer, Dec. 2, 2015, 111:7-12 OAGOOGLE2008695851	• "Q. For "Televisions," of the companies listed here on Exhibit 1344 in the "Television" category, who amongst them is a current Oracle licensee? A. TPV, TQDVD and M-Star, they are all licensees." • "FY15 Outlook. Opportunity: TQTVD—Royalty, Odds: 30%, Q4: $800,000"
Televisions	M-Star	Deposition of Mike Ringhofer, Dec. 2, 2015, 111:7-12	• "Q. For "Televisions," of the companies listed here on Exhibit 1344 in the "Television" category, who amongst them is a current Oracle licensee? A. TPV, TQDVD and M-Star, they are all licensees."
Televisions	Samsung, LG, Sony, Sharp, Panasonic	Deposition of Mike Ringhofer, Dec. 2, 2015, 113:16-114:12	• "So Samsung, LG, Sony, Sharp and Panasonic, we're now speaking in general, outside of Ginga-J, I get the delineation of whatever, televisions, and these five companies -- and we've listed some big names -- obviously, these are just a handful of some of the larger names that I queried upon and talked to the team -- that we have lost opportunities to each and every one of these in the Smart TV or television space to Android…Q. Which of those companies was at one time an Oracle licensee? A. Well, they've all been Oracle licensees. Q. I meant specifically in the context of televisions. A. I am not aware that they have been licensed. And I believe they were early adopters of Android that basically in a similar way to wearables really took over that market fast."
Televisions	iPanel	OAGOOGLE2000180303 OAGOOGLE2000222133	• "The work being scoped with iPanel may be our option unless Oracle wants to make a full press to OCN to displace Android. . . . Mr. Xu confirmed the interest to work with Oracle for Cable TV carriers projects . . . . But, he thinks there is considerable risk due to Android threat." • "iPanel thinks that currently there is an opportunity window [in 2011] for promoting Java in China TV/Media, due to . . . there are no dominating platforms (&apps) in DTV area yet – unlike mobile world."
Blu-Ray	General	OAGOOGLE2000101486	• "100% of all Blu-ray players run Java"
Blu-Ray	Panasonic	OAGOOGLE2000228794	• "Panasonic is using Java ME Media Pack for CDC for long time for Blu-ray devices"

Product Category	OEM	Source	Quote
Blu-Ray	LG Electronics	Deposition of Mike Ringhofer, Dec. 2, 2015, 18:1-13 Deposition of Mike Ringhofer, Dec. 2, 2015, 116:12-21	• "Q. Does Oracle currently have a license agreement with LG? A. Yes. Q. And what does that license agreement cover? A. We -- we have -- we have a few -- well, there's a few different arrangements. They're licensed in multiple products....They are a licensee for our Blu-ray." • "Q. For "Blu-Ray," was there any deal that Oracle actually had and that it lost to Android? A. I don't believe so because the Blu-ray actually has a specification for Java. So if there is a Blu-ray player, it -- it has Java as a necessity of the -- the standard."
Media Players (including set-top boxes)	General	OAGOOGLE2000253473 OAGOOGLE0000154715	• "[Java was in] millions of TV set top boxes" • "Worldwide MSO set-top box standards require Java."
Media Players / Set-top Boxes	Cisco/Scientific Atlanta	Deposition of Mike Ringhofer, Dec. 2, 2015, 117:5-7 Deposition of Mike Ringhofer, Dec. 2, 2015, 119:25-120:22	• "A. Cisco had Java that's been turning -- Scientific Atlanta -- has been turning to Android." • "Q. And did Oracle actually have a deal with Cisco for the use of Java in media players? A. Yes. Q. Okay. Is that deal current? A. I believe so, yes... Q. And is Cisco now using Android? A. They are. Q. Is Oracle doing anything to actively market to Cisco for the use of Java in media players? A. When new opportunities come up, we would look to win those and find any -- any time they're looking at -- and it's a good embedded scenario for Java, historically we've been there. So, yes, we would still compete for that business."
Media Players / Set-top Boxes	PCL	Deposition of Mike Ringhofer, Dec. 2, 2015, 117:16-18	• "I believe some of the others, PCL, Lenovo, BENQ have seen deterioration from Java to Android."
Media Players / Set-top Boxes	Lenovo	Deposition of Mike Ringhofer, Dec. 2, 2015, 117:16-18	• "I believe some of the others, PCL, Lenovo, BENQ have seen deterioration from Java to Android."
Media Players / Set-top Boxes	BenQ	Deposition of Mike Ringhofer, Dec. 2, 2015, 117:16-18	• "I believe some of the others, PCL, Lenovo, BENQ have seen deterioration from Java to Android."
Media Players / Set-top Boxes	OCN	OAGOOGLE0011787884	• "TV & Embedded LOB – Pipeline. OCN. Probability %: 70%"
Media Players / Set-top Boxes	Broadcom	OAGOOGLE2000030936	• "The communications group at Broadcom owns 70% of the digital Set Top box processor market and let us know it was approximately worth $2 billion dollars. BRICA is definitely a target focus for Broadcom, along with any ideas on how to maintain and grow their current market share using Oracle Java. Broadcom is acutely aware of OCAP, Tru2Way, Ginga-J etc so there is not a lot of convincing to do that Java is a market requirement."

Product Category	OEM	Source	Quote
		OAGOOGLE2000030936 OAGOOGLE20000029767 at 1-2	• "Broadcom offers a software framework called Trellis to their ODMs and service providers for the plug and play of development and delivery of digital TV applications and services. Java Run Time competition: Android (and Skelmir, Adobe Air, HTML 5)" • "[Broadcom] believed [Oracle is] more stable in the long term, produce focused once [Oracle] optimize [its] binaries, active in the standard bodies …, have credibility and brand recognition with the carriers." • "This opportunity is about taking our market share back in the TV market. Broadcom is the leader. Clean room implementors have been undercutting us for years, and anything we take here is net new $$."
Media Players / Set-top Boxes	Alticast	OAGOOGLE2000066068 Deposition of Mike Ringhofer, Dec. 2, 2015, 117:10-18	• "Alticast has indicated … that they have Android and HTML5 solutions ready for the market and are prepared to migrate their licensees to these solutions." • "A. Alticast, we've seen diminishing shipments as -- they as a partner as well that distribute to their key customers have been switching to Android."
Media Players / Set-top Boxes	Coship	OAGOOGLE2000077924	• "Coship saw the fast adoption of Android in the STB/Media market and they had to focus on Android based solution to meet the requirement of their customer."

Product Category	OEM	Source	Quote
		OAGOOGLE2008902960	**Java licensee in the Market** Coship • One of the largest STB OEMs in China,10%+ of the STB market share,10% of the DTV STB middleware market • FY10 revenue is about 300M $,10M+ annual STB manufacturing capacity. • Good relationship with some local key market carriers like ShenZhen Topway and BeiJing GeHua. • End to end DTV solution DTV provider. • Announced the strategic partnership with SUN in 2009 CDTF BeiJing, Java CDC BVAP of Oracle. • SOW#1 of Java CDC for media and SOW#2 of Java CLDC for Mobile have been done. • Coship want to be the Java CDC source code licensee. • Glad to cooperate with Oracle Java in the overseas market and domestic market development ORACLE
Media Players / Set-top Boxes	Comcast	OAGOOGLE2008747127	• "Shared Tier 1 Customers between Oracle and Broadcom: - Comcast, Time Warner, and every other STB manufacturer in the world."
		OAGOOGLE2000030936	• "The communications group at Broadcom owns 70% of the digital Set Top box processor market and let us know it was approximately worth $2 billion dollars. BRICA is definitely a target focus for Broadcom, along with any ideas on how to maintain and grow their current market share using Oracle Java. Broadcom is acutely aware of OCAP, Tru2Way, Ginga-J etc so there is not a lot of convincing to do that Java is a market requirement."
		OAGOOGLE2000030936	• "Shared Tier 1 Customers between Oracle and Broadcom: Comcast, Time Warner, and every other STB manufacturer in the world."
Game Consoles	Xbox 360	Deposition of Mike Ringhofer, Dec. 2, 2015, 121:15-122:7	• "Q. In the game console category, are either of those companies listed there companies with whom Oracle once had a contract for the use of Java and is now lost due to Android? A. So we have not lost to Android on either of these, no. . . .For the xBox -- it's actually the xBox 360. And that is actually licensed from a company called sMedio, s-M-e-d-i-o. And they license the stack to Microsoft; that it contains Blu-ray for the use in Microsoft xBox 360."

Product Category	OEM	Source	Quote
Game Consoles	PlayStation 4	Deposition of Mike Ringhofer, Dec. 2, 2015, 121:15-122:1	• "Q. In the game console category, are either of those companies listed there companies with whom Oracle once had a contract for the use of Java and is now lost due to Android? A. So we have not lost to Android on either of these, no. Just to be specific I guess, so the PlayStation, that's Sony. So the company's Sony. This is using it in the Blu-ray. So Blu-ray spec calls for Java. So Sony licenses it for the PlayStation 4."
Web Browsers	Opera Mini	Deposition of Mike Ringhofer, Dec. 2, 2015, 122:8-16 Deposition of Mike Ringhofer, Dec. 2, 2015, 122:24-123:1 Deposition of Georges Saab, Dec. 16, 2016, 116:5-13	• "Q. For "Web Browsers," are you aware of any company with whom Oracle once had a contract for the use of Java that it has since lost to Android? A. My understanding is that we did have licensing with Opera for the minibrowser, and that has since went away; and they have basically moved to Android instead of Java." • "Q. Is it your understanding that Opera now uses Android in some fashion? A. That is my understanding, yes." • "Q. Are you aware of any license that Oracle has for the use of Java in Web browsers? A. So yes, but -- so in this specific context in this exhibit, this is in reference to Java running in mobile Web browsers. I just want to draw the distinction because there's Java in desktop Web browsers as well, which is different. So there was a license for the Opera Mini, as referenced here, and, in this case, they went to Android."
Household Appliances	General	OAGOOGLE200007581 OAGOOGLE2000094077	• "Who are the top 10 partners we need to have in each of our target verticals? Smart Grid / Smart Homes . . . 10. GE/Samsung/LG." • "Oracle Platform for Home Automation Sales Playbook (June 2013)"
Household Appliances	LG Electronics	OAGOOGLE200007581	• "Who are the top 10 partners we need to have in each of our target verticals? Smart Grid / Smart Homes . . . 10. GE/Samsung/LG."
Household Appliances	Samsung	OAGOOGLE2000023783	• "Mr. Seo has a big concern about price of Java …. do not want to utilize Java on Samsung device because they believe Android is free, but Java is expensive. That is quite a challenge for Java"
Household Appliances	Samsung	OAGOOGLE2000128379 Deposition of Mike Ringhofer, Dec. 2, 2015, 83:11-14	• "1 new opportunity in Korea: Samsung Electronics Air Conditioner" • "We pursued them with Smart Appliances such as a Smart air-conditioner which we lost to Android. So we are constantly looking to license Samsung new Java opportunities."
Household Appliances	Freescale	OAGOOGLE20000180777	• "A majority of Freescale customers first consider Android or Microsoft for embedded but are unaware of Java as a possible solution, making it a harder sell for Freescale"

Product Category	OEM	Source	Quote
Household Appliances	GE Appliances	OAGOOGLE2000062898	• "GE Appliances . . . (lost to Android)"
Internet of Things	General	OAGOOGLE2006020696	• "Preliminary Data on IoT deals using Java ME or SE. IoT Deals. BD-Oppties from FY14."
Internet of Things	Qualcomm Life	OAGOOGLE2000089528 at 36 Deposition of Mike Ringhofer, Dec. 2, 2015, 33:24-34:2	• "Qualcomm: M2M/Orion, TEE, wearable devices" • "Q. Is Qualcomm a current Oracle licensee? A. I believe they are a current developer licensee."
Internet of Things	Wind River	OAGOOGLE2000057258	• "Windriver has an Android strategy – they've hired 100 developers to create solutions"
Internet of Things	Omron	OAGOOGLE2000005781	• "Examples of prospects worldwide include Qualcomm, Philips, Bosch, Elbrys networks, Prodea, Omron, etc .."
Internet of Things	Huawei	OAGOOGLE2000057258	• "competing with Dalvik on M2M – is a problem … groups within Huawei & ZTE"
Internet of Things	FIC	OAGOOGLE2000180771	• "FIC, China, 6/1/2014, smart vending machine" • "a giant industrial terminal OEM in Taiwan" that makes i.MX6-based industry-level control board"
Internet of Things	NTT	OAGOOGLE2000062129	• A February 2012 email thread states a potential client with "millions of Home Gateway units per year" opportunity, NTT, "is currently leaning toward non-Oracle Java (Dalvik, cleanroom, etc)"; Oracle trying to get deal through Freescale
Internet of Things	Honeywell	OAGOOGLE2006020696	• IoT deal for Java ME for in Building Automation Sensors (Revenue estimates: $150,000 in FY15 and $450,000 in FY16)
Internet of Things	Murata	OAGOOGLE2006020696	• IoT deal for Java ME for in Building Automation Sensors (Revenue estimates: $150,000 in FY15 and $450,000 in FY16)
Internet of Things	Rockwell	OAGOOGLE2006020696 OAGOOGLE2006020696	• IoT deal for Java SE for OPC-UA server appliances (Revenue estimates: $500,000 in FY15 and $1,000,000 for FY16) • IoT deal for Java SE for industrial gateway
Internet of Things	GE	OAGOOGLE2006020696 OAGOOGLE2006020696	• IoT deal for Java SE for GE Predix machine (Revenue estimates: $30,000 in FY15 and $100,000 in FY16) • IoT deal for Java SE for GE gateway (Revenue estimates: $50,000 in FY15 and $250,000 in FY16)
Internet of Things	Sane	OAGOOGLE2006020696	• IoT deal for Java SE for automotive digital cluster (Revenue estimates: $50,000 in FY15 and $150,000 in FY16)
Internet of Things	Cisco	OAGOOGLE2006020696	• IoT deal with Cisco for Java SE for deployment in ATT Digital Life Gateway DLC-100 and DLC-200 (Revenue estimates: $250,000 in FY15 and $300,000 in FY16; $100,000 in FY15 and $1,250,000 in FY16)

Product Category	OEM	Source	Quote
Internet of Things	Haas Automation	OAGOOGLE2006020696	• IoT deal for Java SE for CNC Mills/Lathes (Revenue estimates: $100,000 in FY15 and $200,000 in FY16)
Internet of Things	Samsung	Deposition of Mike Ringhofer, Dec. 2, 2015, 20:9-18 Deposition of Mike Ringhofer, Dec. 2, 2015, 21:13-19	• "Q. Does Oracle currently have a license agreement with Samsung? A. Yes. Q. What does that license agreement cover? A. We also have a variety of licensing . . . one of those being with Internet of Things related to SmartThings devices." • "Q. You mentioned also the Internet of Things. Does Oracle currently have a license with Samsung on an Internet of Things related device? A. Yes. Q. What is that license? A. It's their SmartThings platform."
Tablet	RIM	OAGOOGLE2000180086	• "Executive Briefing Document. Information for Executive Meeting with Research in Motion. . . . RIM . . . feel Oracle can help by leveraging its Java leadership, developer community and enterprise market presence. RIM wants a short term strategy to address its time-to-market issues around Playbook tablet as well as long-term platform strategy for its future products."
Cameras	Nikon	OAGOOGLE2000059827	• "Java is not used in Digital Camera today. But Nikon released one model based on Android the other day. But we have hope to let them use Java."
Cameras	Panasonic	OAGOOGLE2000180771 OAGOOGLE2007614035	• "Building Automation, Panasonic System Networks, Security Camera, 7/23/2014" • Security camera (contacted)
Cameras	Shikino High Tech	OAGOOGLE2000125785	• "Security Camera System: Found out they are major CMOS Camera supplier with 100% share in ATM and Kiosk Terminal at major convenience stores. Current using C/C++ on Linux with 512MB RAM. Now they are OK with switching to Java. We need more investigation of their volume in each market segment for us to figure out our business potential and strategy."
Cameras	Robot (security camera)	OAGOOGLE2007614035	• "FY14 Q2 Expected New Design Wins: NEC – Security Camera / Robot" • "Smart House / Smart Building, New Design win, Security Camera / Robot –NEC"
Cameras	Sony (Security Camera—Targeted)	OAGOOGLE2007614035	• "Smart House / Building (2) Status, Targeted (Security Camera): Sony"
Cameras	Mitsubishi (Security Camera--Targeted)	OAGOOGLE2007614035	• "Smart House / Building (2) Status, Targeted (Security Camera): Mitsubishi"

Product Category	OEM	Source	Quote
Cameras	Canon (Security Camera—Targeted)	OAGOOGLE2007614035	• "Smart House / Building (2) Status, Targeted (Security Camera): Canon"
Cameras	Hitachi (Security Camera—Targeted)	OAGOOGLE2007614035	• "Smart House / Building (2) Status, Targeted (Security Camera): Hitachi"
E-readers	Kindle	OAGOOGLE2000060932 Deposition of Georges Saab, Dec. 16, 2016, 45:5-7 OAGOOGLE2007775909	• "JavaSE Embedded, Java FX on Amazon Kindle . . . Get JavaFX to work on Amazon kindle .... and hopefully convince them to switch UI tools." • "you can look at Amazon. The Amazon Kindle is based on Java ME, and the Kindle Fire is Android based." • "Amazon evaluating Java SE for Kindle v4. Estimates are 4M units/year . . . Steep ramp of Kindle units anticipated by the market. Corresponding revenue growth to Oracle for FY10 anticipated at 4M units ($3.1M+)."
E-readers	Kindle Fire	OAGOOGLE2000180051 Deposition of Donald Smith 30(b)(6) and Individual, Nov. 20, 2015, 114:11-14 Deposition of Georges Saab, Dec. 16, 2015, 62:11-19	• "Indirect Executive Summary Form . . . Amazon plans to introduce a new model in the Kindle E-Book Reader product line sometime in late 2015, or very early 2016 . . . Oracle Engineering Services, which has created all the ports of Java ME to the Kindle since its inception, have provided Amazon with an evaluation copy of Java SE 8 integrated with the [AGUI] API that Amazon currently uses with Java ME." • "Q. Are you aware of any Oracle licensee in the media player market choosing Android over Java? A. Well, Kindle Fire would be a great example of that." • "Q. At the time that Amazon chose Android, do you know whether or not Oracle was offering a solution that fit Amazon's needs for its Fire tablet or any other devices considering? THE WITNESS: I believe that the offering that Oracle had at the time, both Java SE Embedded and Java ME, are basic technologies that could be used to achieve a similar goal."
VoIP Phones	Cisco	Deposition of Mike Ringhofer, Dec. 2, 2015, 35:12-14 OAGOOGLE2008897992	• "Q. What products does Cisco license Java ME for? A. The voiceover IP telephones." • "Network Equipment Providers—VoIP Handsets, #1—30%, VoIP Handset running CDC, FY07-FY12 revenue: $4.5M"

Product Category	OEM	Source	Quote
VoIP Phones	Avaya	OAGOOGLE2008897992	• "Network Equipment Providers—VoIP Handsets, #2—22%. Avaya: VoIP Handset running Java SE, Revenue FY07-FY12: $702,000"
VoIP Phones	NEC	OAGOOGLE2008897992	• "Network Equipment Providers—VoIP Handsets, #3—9%. NEC: 6 Yr Revenue Potential: $1.3M"
VoIP Phones	Alcatel Lucent	OAGOOGLE2008897992	• "Network Equipment Providers—VoIP Handsets, #4—8%. Alcatel Lucent: 6 Yr Revenue Potential: $1.2M"
Printers	Lexmark	Deposition of Donald Smith 30(b)(6) and Individual, Nov. 20, 2015, 121:3-6	• "Lexmark is an example. They're a printer company, and we were pursuing a license with them, and they went with Android."
Printers	Ricoh	OAGOOGLE2008897992	• "Computer Hardware (Storage/Peripherals) – Printers. #1 –30% Ricoh. Printer running Java ME, Revenue FY07-FY12: $2.4M"
Printers	Fuji Xerox	OAGOOGLE2000125785 OAGOOGLE2008897992	• "Fuji Xerox now thinks about applying our Java base IoT solution to their MFP base system. . . Fuji Xerox wants us and Murata to involve other MFP makers to apply our IoT solution as an industry solution. They also want us to gather representative persons from each MFP makers to discuss to make one common data protocol around MFP as gateway as a working group, or consortium in the end. I am talking to FMW about the idea for band End [sic] side." • "Computer Hardware (Storage/Peripherals) – Printers. #3 –20% Fuji Xerox. 6 Yr Revenue Potential: $1.6M"
Printers	Canon	OAGOOGLE2000255195 OAGOOGLE2000227977 OAGOOGLE2008897992	• "Ongoing business: . . . We expect 1.5 M units in FY15 by printer companies. (JavaFX is a key function). Fuji Xerox will ship new products with Java SE-E. Canon is evaluating Java SE on both MFP and ink-jet Printer." • "Canon has deployed many printers based on the Java CDC platform and has developed a large amount of applications and custom code on the platform. In addition Canon has a large ecosystems [sic] consisting of hundreds of applications written to CDC Personal Profile specification." • "Computer Hardware (Storage/Peripherals) – Printers. #2 –25% Canon. Printer running Java ME, Revenue FY07-FY12: $1.7M"
Printers	Epson	OAGOOGLE2008897992	• "Computer Hardware (Storage/Peripherals) – Printers. #4 –10% Epson. 6 Yr Revenue Potential: $0.8M"
Printers	Samsung	OAGOOGLE0000398897	• "Samsung printer committed to use Java for their next MFP. Samsung signed SOW 25 guaranteeing emb SE ARM build release for Samsung."
GPS	Garmin	OAGOOGLE2009819421	• "Just got a request from Garmin, they are looking at platforms to put on top of devices running their own Linux distro's (as opposed to

Product Category	OEM	Source	Quote
			just accepting Android + ipk + google play app store / iOS + Apple hardware + iTunes app store…) and they're interested in using Java SE / JavaFX for these devices."
Vending Machines/Kiosks	Consolis	OAGOOGLE2000126883	• "Background: POS and Kiosk manufacturers, Retail software device platforms. Good range of big players (Toshiba, Star, Panasonic) and smaller specialist companies. Key observations: Lots of Android and Windows presence both on the devices themselves and all of the banners and literature. Lots of cloud based solutions and thin client terminals. Clear movement from traditional 'tills' to more PC/Apple/Android based POS terminals." "Consolis: Hans Johansson in the Technical Director. Using FoxPro on some terminals! At migration point - looking at Android. Will make contact after the show."
Vending Machines/Kiosks	FIC	OAGOOGLE2000180771	• "FIC, China, 6/1/2014, smart vending machine"
Vending Machines/Kiosks	Panasonic	OAGOOGLE2000125785	• "Agreements process (iES) under going: PSN Vending Machine: BLRA – at BP"
Payments Terminals and Point of Sale Terminals	Magtek, Newland, Sequoia, BSquared, Future4POS	OAGOOGLE2000126883	• "Magtek: Doing some work with Java and provide a Java based SDK. No technical knowledge on this stand but have follow-up contact details to get more info." • "Newland: 2 types of terminals and handheld scanners. Currently Linux based. No awareness of Java in this space" • "Sequoia aka Kiosks4Business: Hardware kiosk manufacturer based in Spencers Wood. Generally just provide terminals and software platform is directed by the end customer. Would be open to meeting. To contact after show." • "BSquared. Geoff has already met with them apparently. Early days relationship discussions. Very keen to work with us further and strong Java supporters." • "Future4POS: Revisited booth 4 times but they were always busy. The only visible use of Java that I saw of the show as they have a tag line displayed on the booth saying 'Futura4POS [sic] – 4th generation Java based EPOS'"
Payments Terminals and Point of Sale Terminals	Denso Wave	OAGOOGLE2000125785	• "Moving forward with NEC as Sler toward the end user Suzuken, a major retail stores. Java ME on Windows CE6 and Embedded Compact 7. They prefer AWT, but we try to have them use JavaFX.

Product Category	OEM	Source	Quote
			We are driving NEC toward the direction by showing JavaFX demo on CE platform next week."
Payments Terminals and Point of Sale Terminals	OKI (ATM)	OAGOOGLE2007614035	• "FY14 Q3 Expected New Design Wins: OKI – ATM"
Payments Terminals and Point of Sale Terminals	Fujitsu Frontech (ATM)	OAGOOGLE2007614035	• "New Design win, POS: Fujitsu Frontech" (2012)
Payments Terminals and Point of Sale Terminals	Toshiba TEC (POS)	OAGOOGLE2007614035	• "Retail & Finance—Shipment Growth, POS: Toshiba TEC, NEC Infrontia"
Payments Terminals and Point of Sale Terminals	NEC Infrontia (POS)	OAGOOGLE2007614035	• "Retail & Finance—Shipment Growth, POS: Toshiba TEC, NEC Infrontia"
Payments Terminals and Point of Sale Terminals	Clover, Hoft & Wessel, YesPay, Enactor	OAGOOGLE2000126883	• "Clover: Android based open terminal. Very new to market with designed terminals. Very Appleish and adopting a similar business model in terms of encouraging an open developer platform and store for retailers to purchase new applications. Apps predominantly run in the cloud." • "Hoft & Wessel: Android and Windows based payment terminals and kiosks. Not aware of any Java discussions within the company." • "YesPay: Java running on payment terminals. May be dated 1.6? No technical details available. Needs more background." • "Enactor: Software solutions for retail. All Java based. Crying out for a closer relationship with us. Open to joint press, displaying and advertising Java logo etc. Have some high profile deployments of Java within retail. They mentioned Harrods and having just supplied an additional 300 units. I didn't push too heavily at this point on the monetization point but we need to explore this in a follow-up meeting"